

²⁰⁰⁹ *Healthier You*



HealthierYou 2009 Calendar

Introduction

The NASA Office of the Chief Health and Medical Officer (OCHMO) www.ohp.nasa.gov presents its fifth annual health calendar with the publication of HealthierYou 2009. The intent of this publication is to promote health and a healthy lifestyle through education and awareness. Each year we focus on a theme or message. Last year, we focused on healthy aging and the work/life balance. This year, we are focusing on how humans and their environment impact each other's health and sustainability.

We identified the theme for the HealthierYou 2009 Calendar after months of deliberation and research. Some of the factors that influenced our decision were as follows:

- In 2008, NASA celebrated its 50th year of exploration and discovery by reflecting on the Agency's accomplishments, innovations, and contributions to science and technology on earth, and the expansion of man's knowledge about the solar system and the universe. We address agency pride in innovation and research in the **NASA in Your Life** segment and celebrate the accomplishments of the Agency's workforce by advocating for their health and productivity in a series of health messages.
- The United Nations 62nd General Assembly proclaimed 2009 the International Year of Astronomy. An initiative that is being spearheaded by the International Astronomical Union (IAU) and United Nations Educational, Scientific and Cultural Organization (UNESCO) www.astronomy2009.org. The vision of the International Year of Astronomy 2009 is to help the citizens of the world rediscover their place in the Universe through the day and night time sky, and thereby engage people in a sense of wonder and discovery. Once again, we built on this vision by addressing personal health and self-betterment in relation to the cosmos and our environment.

In order to present our message of human and environmental health and sustainability in an interactive and profitable manner, we prepared several interrelated segments. These segments include the following:

- **Monthly Topic:** A monthly health issue was identified after a close

review of national health observances and recognition dates, matters of health interest, and national health trends. Because several health observances can be incorporated into one month, selection of a health topic was challenging. For example, the month of May is the month of observance for allergy and asthma, mental health awareness, women's health, arthritis, high blood pressure education, and others. We devoted the May 2009 health discussion to allergy and asthma because in previous Calendar publications May was dedicated to topics of mental health, indoor air quality, and women's health. In essence, health topics are rotated in order to address a new issue every year.

- **Space:** The health topic of the month is further discussed in relationship to the body's physiologic response to microgravity during space travel.
- **Fact or Fiction:** This learning activity was developed to test one's knowledge of the featured health topic.
- **NASA in Your Life:** A presentation of twelve NASA spin off technologies that were originally developed under NASA contracts and are now used to improve everyday life on Earth.
- **Down-to-Earth:** A review of our connections to the Earth's environment is presented in a manner relevant to the Monthly Topic. This was a challenging task. We hope the environmental facts prove to be a learning point.
- **HealthierYou by Choice:** A celebration of healthy eating and living.
- **Feature Article:** Every year we present one in-depth article. This year's feature article is titled Setting Personal Boundaries; an important step to improving our personal lives and relationships.
- **Matching Activity:** We have left a page of stickers in the center of the Calendar as an exercise in Active Learning. In this exercise you are asked to match one or more national health observances and recognition dates to its designated month. As described earlier, we could select a few observances per month. Some clues are included in the Calendar content, but in some cases you will need to do a little research as the clues are not readily evident. We hope the image of Ramesses Greets the Night will serve as a reward for your participation and active learning.

Please Note: Due to space limitations on the printed Calendar, the following segments are detailed on-line only:

- Fact or Fiction,
- NASA in Your Life,
- Down-to-Earth,
- HealthierYou by Choice, and
- Answers to the Matching Activity.

An interactive PDF of the Calendar and the Calendar evaluation are available on our website at www.ohp.nasa.gov/healthcalendar. Also, please feel free to call us directly at (321) 867-3646.

References and Resources:

1. The Down-to-Earth Guide to Global Warming, L. David and C. Gordon, Scholastic, First Edition, 2007
2. Test Your Enviro-Q is a feature on the Environmental Protection Agency's (EPA) website to stimulate users' interest and curiosity in a variety of environmental topics with engaging questions, www.epa.gov
3. Test Your Enviro-Eye for many engaging images about environmental protection, www.epa.gov
4. NASA spin off technology, www.sti.nasa.gov
5. Food Holidays, www.thenibble.com and www.tfdutch.com
6. Space Physiology, Jay C. Buckey, Jr, MD, 2006, Oxford University Press

Please note: All the listed URLs will take you to the home page of the organization because web pages and articles are constantly moved and relabeled. In order to avoid confusion on the part of the reader, we decided that it would be most beneficial to note the home page URL only. When researching a topic, please utilize the search function on the site and some key words extracted from the calendar text to locate the appropriate web page or article. You can always visit www.nasahealthieryou.com, a Mayo Clinic web portal, for more information on any health topic.

Editors:

Mental Health: Marion Ruffing, CEAP

Nutrition: Nancy Miller, RD, LD

Medical: Saralyn Mark, MD; Arnold Christopher, MD; Wyckliffe Hoffler, MD

Aerospace Physiology: Kenneth Cohen, PhD

Graphics:

InDyne Incorporated, Kennedy Space Center

Content:

Dynamac Corporation, Kennedy Space Center

2009 Phases of the Moon:

Moon phases are based on the Universal Time with these symbols:

New moon:  First quarter:  Full moon:  Last quarter: 

By international agreement, the local time at the prime meridian, which passes through Greenwich, England, is called Universal Time. Prior to 1972, this time was called Greenwich Mean Time (GMT) but is now referred to as Coordinated Universal Time or Universal Time Coordinated (UTC). In a few cases, the actual event in UTC occurs the previous night in the U.S. aa.usno.navy.mil

Mayo Clinic EmbodyHealth

To meet the overall objective of keeping the NASA workforce healthy and productive, OCHMO is **pleased to announce the return of the *Mayo Clinic EmbodyHealth* and Health Assessment**. NASA chose Mayo Clinic because their services and products are industry recognized.

Your participation is voluntary but highly encouraged. To log on to a HealthierYou, please visit www.nasahealthieryou.com.

Please complete the **Health Assessment**, it takes about 15 minutes. The report you receive provides you with great insight and guidance to self-improvement, and completion of the Health Assessment personalizes the EmbodyHealth web portal to your needs.

To register on the *Mayo Clinic EmbodyHealth* web portal you will need the NASA unique identifier. To obtain the identifier you may contact your Center Clinic or Mae Hafizi at homeyra.hafizi-1@nasa.gov or Gail Bantugan at gail.a.bantugan@nasa.gov.

We respect the privacy of your health information; therefore, Mayo Clinic will provide NASA with only aggregate data containing no personally identifiable information. This information helps us plan and implement health promotion and awareness campaigns that are meaningful to your needs.

Please take advantage of this opportunity and the many other valuable tools and information incorporated on the *Mayo Clinic EmbodyHealth* web portal www.nasahealthieryou.com.



Star trail and the lights of aurora above a frozen lake, Northwest Territories, Canada.
Yuichi Takasaka www.blue-moon.ca

2009 • January

Log on to a HealthierYou and take the Health Assessment:
www.nasahealthieryou.com

Read more and complete the calendar evaluation:
www.ohp.nasa.gov/healthcalendar



| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--|---|-----------|-----------|--|-----------|-----------|
| DECEMBER 08 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 | FEBRUARY S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 | | | 1 New Year's Day (federal holiday) | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 Martin Luther King, Jr. Day (federal holiday) | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |

Anemia

A condition in which there is insufficient numbers of healthy red blood cells (RBC).

- RBCs carry oxygen to the tissues. Important in RBC production are iron, proteins, and vitamins - especially folic acid and B-12.
- There are many forms of anemia, each with its own cause.
- Anemia can be a sign for serious concern and of illness.
- Anemia risk factors include malnutrition, chronic conditions of the liver and kidneys, and environmental contaminations such as lead and copper.

SPACE: Mild anemia is an effect of prolonged exposure to microgravity associated with impaired production of erythropoietin, an essential hormone in the production of RBC.

www.mayoclinic.com

Fact or Fiction

Iron supplements alone treat anemia.

NASA in Your Life

SpiraFlex® Resistance Exercise Device

Down-to-Earth

Take the "Pledge"!

HealthierYou by Choice

National Spaghetti Day is January 4th.

Read more and complete the calendar evaluation: www.ohp.nasa.gov/healthcalendar

Snowstorm in the Bolu Mountains and the Comet Holmes, Turkey.
Tunc Tezel canopia@yahoo.com



2009 • February

Log on to a HealthierYou and take the Health Assessment:
www.nasahealthieryou.com

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| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--------|--|---------|--|----------|--|--|
| 1 | 2 <div>☾</div> | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 <div>◯</div> | 10 | 11 | 12 | 13 | 14 <div>Valentine's Day</div> |
| 15 | 16 <div>☾</div> <div>President's Day (federal holiday)</div> | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 <div>●</div> <div>Ash Wednesday</div> | 26 | 27 | 28 |
| | | | | | <div>JANUARY</div> <div>S M T W T F S</div> <div>1 2 3</div> <div>4 5 6 7 8 9 10</div> <div>11 12 13 14 15 16 17</div> <div>18 19 20 21 22 23 24</div> <div>25 26 27 28 29 30 31</div> | <div>MARCH</div> <div>S M T W T F S</div> <div>1 2 3 4 5 6 7</div> <div>8 9 10 11 12 13 14</div> <div>15 16 17 18 19 20 21</div> <div>22 23 24 25 26 27 28</div> <div>29 30 31</div> |

Reduce Heart Disease Risk Factors Now!

We tend to ignore advice when we don't understand its rationale.

- Risk factors tend to exacerbate and heighten each other's effects. But lifestyle and behavior related risk factors, such as nutrition and stress, are modifiable. Let's control what we can!
- Common barriers to behavioral change include time constraints and routine disruptions.
- Interventions to behavioral change must:
 - ❖ Set realistic and manageable goals,
 - ❖ Involve social interaction and support,
 - ❖ Provide opportunities to build new skills.

SPACE: Following long missions, returning astronauts may experience reduced exercise and performance capacity, and difficulty maintaining proper blood pressure causing faintness upon standing. Prolonged deconditioning affects the heart and blood vessels on Earth and in Space.

www.nhlbi.nih.gov
www.nsbri.org
www.cdc.gov



Susan Ross—www.dewingedangel.4t.com

Fact or Fiction

When visiting a health care provider it is best only to listen.

NASA in Your Life

Artificial Heart

Down-to-Earth

Carbon Footprint

HealthierYou by Choice

Oatmeal Monday is the second Monday of the month.

Read more and complete the calendar evaluation: www.ohp.nasa.gov/healthcalendar







Northern lights over a Nisga'a Nation monumental sculpture, British Columbia, Canada.
Yuichi Takasaka www.blue-moon.ca

2009 • March

Log on to a HealthierYou and take the Health Assessment:
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| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 8 Daylight Savings Time Begins | 9 | 10 | 11  | 12 | 13 | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 16 | 17 St. Patrick's Day | 18  | 19 | 20 Spring Begins | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 29 | 30 | 31 | | | FEBRUARY <table> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr> <tr><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td></tr> <tr><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td></tr> <tr><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td></tr> </table> | S | M | T | W | T | F | S | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | APRIL <table> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td></tr> <tr><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td></tr> <tr><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td></tr> <tr><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td></td><td></td></tr> </table> | S | M | T | W | T | F | S | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | |
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| 26 | 27 | 28 | 29 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Chronic Kidney Disease (CKD)

CKD is a gradual and usually permanent loss of kidney function. Approximately 26 million Americans are affected, many of whom may not even be aware.

- CKD is divided into five stages of increasing severity.
- Regular exams and testing can identify treatable components of CKD.
- Strive to keep blood pressure and sugar within a healthy range.
- Kidney Early Evaluation Program (KEEP) is a free kidney screening. Population at increased risk includes those with diabetes, high blood pressure, heart disease, family history of kidney disease, or some minority groups such as African Americans.

SPACE: Astronauts lose bone mass in microgravity with a resultant increase in urinary excretion of calcium. Similar to human physiology on earth, increased urinary calcium places astronauts at risk for the development of kidney stones.

Upcoming KEEP Event nearest you:
www.kidney.org
www.nkdep.nih.gov

Fact or Fiction

CKD does not affect children.

NASA in Your Life

Sorbent Dialysis

Down-to-Earth

Join the GREAT AMERICAN CLEANUP!

HealthierYou by Choice

National Celery Month

Read more and complete the calendar evaluation: www.ohp.nasa.gov/healthcalendar



2009 • April

Log on to a HealthierYou and take the Health Assessment:
www.nasahealthieryou.com

Read more and complete the calendar evaluation:
www.ohp.nasa.gov/healthcalendar



| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--|---|---------|---|--------------------------|------------------------------|----------|
| MARCH S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 | MAY S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 | | 1 | 2 | 3 | 4 |
| 5 Palm Sunday | 6 | 7 | 8 | 9 Passover | 10 Good Friday | 11 |
| 12 Easter | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 Administrative Professionals Day | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | | |

Public Health

“Health care is vital to all of us some of the time, but public health is vital to all of us all of the time.” — C. Everett Koop

- The Ten Great Public Health Achievements in the 20th Century in the United States contributing to the quality of our lives:
 - ❖ Vaccination
 - ❖ Motor-vehicle safety
 - ❖ Safer workplaces
 - ❖ Control of infectious diseases
 - ❖ Decline in deaths from coronary heart disease and stroke
 - ❖ Safer and healthier foods
 - ❖ Healthier mothers and babies

- ❖ Family planning
- ❖ Fluoridation of drinking water
- ❖ Recognition of tobacco use as a health hazard

SPACE: Astronauts need to maintain a healthy living environment in space to prevent illness since prolonged spaceflight weakens astronauts’ immune systems.

www.cdc.gov
www.aphsa.org
www.osha.gov

Fact or Fiction

Public health is credited with adding 25 years to the life expectancy of people in the United States in the 20th century.

NASA in Your Life

Waste water purification

Down-to-Earth

Maintain safe, clean, and healthy communities

HealthierYou by Choice

April 30, 2009 is National Raisin Day

Read more and complete the calendar evaluation: www.ohp.nasa.gov/healthcalendar



2009 • May

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www.nasahealthieryou.com

Read more and complete the calendar evaluation:
www.ohp.nasa.gov/healthcalendar



| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|--|---------|-----------|----------|---|---|
| APRIL S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 | JUNE S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 | | | | 1  | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9  |
| 10 Mother's Day | 11 | 12 | 13 | 14 | 15 | 16 |
| 17  | 18 | 19 | 20 | 21 | 22 | 23 |
| 24  | 25 | 26 | 27 | 28 | 29 | 30 |
|  31 | Memorial Day (federal holiday) | | | | | |

Allergy and Asthma

Some people with asthma may also have allergies. If you have allergies it does not mean that you will develop asthma. They are two different conditions.

- Allergy - An inflammatory reaction of the nasal membranes, the eyes, the skin, and the tongue to an allergen.
- Asthma - A chronic inflammatory condition of the lungs that affects breathing by narrowing the air passages (bronchial tubes). An increased production of mucus and contraction of the muscles contribute to this narrowing.
- Symptom management is essential in both conditions. Understand the underlying causes and take control of the treatment.

SPACE: Indoor air quality must be maintained at very high levels aboard the International Space Station (ISS) to prevent the build up of allergens or infectious agents. Furthermore, carbon dioxide is maintained at a very low level to keep good air quality for astronaut health.

www.lungusa.org
www.aaaai.org
www.emedicinehealth.com
www.mayoclinic.com

Fact or Fiction

Inhaled allergens will only produce respiratory symptoms. Ingested allergens (food) will produce skin and gastrointestinal symptoms.

NASA in Your Life

Air Purifier

Down-to-Earth

Carbon sink

HealthierYou by Choice

A Cinco De Mayo Recipe – Anita's Green Salsa (Salsa Verde)

Read more and complete the calendar evaluation: www.ohp.nasa.gov/healthcalendar



The Milky Way and a faint Aurora Borealis in the Hamra nature reserve, Sweden.
P-M Heden www.clearskies.se



| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Father's Day Summer Begins | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | 29 | 30 | | | <div><div>MAY</div><table><tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>1</td><td>2</td></tr><tr><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td></tr><tr><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td></tr><tr><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr><tr><td>31</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table></div> | S | M | T | W | T | F | S | | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | | | | | | | <div><div>JULY</div><table><tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>1</td><td>2</td></tr><tr><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td></tr><tr><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td></tr><tr><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr><tr><td>31</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table></div> | S | M | T | W | T | F | S | | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | | | | | | |
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Aphasia: ah-fay'-zhuh

Aphasia is most often caused by disease or damage to the parts of the brain that control language. People with aphasia lose the ability to access and communicate ideas through language.

Rehabilitation -

- Goal: Minimize the psychosocial impact of language impairment.
- Objective: Recover lost skills to the extent possible.
- Strategy: Affected individual and family must learn compensatory communication measures such as:
 - ❖ Give the person time to speak.
 - ❖ Do not finish their sentences unless asked.

- ❖ Become sensitive to background noise and competing sounds.
- ❖ Utilize several means of directing interaction such as drawing.

SPACE: The ISS is a multinational endeavor. Numerous countries have been communicating and working together to build and maintain the ISS. Meetings between the Soviets and Americans in space led to some cooling of tensions between the two countries during the cold war.

www.aphasia.org

Fact or Fiction

Aphasia affects a person's intelligence.

NASA in Your Life

Balance Evaluation Systems

Down-to-Earth

Sustainable Development

HealthierYou by Choice

What is the difference between "spices" and "herbs"?



Susan Ross — www.dewingedangel.4t.com




Scenic moonrise in southern Arizona.
Stefan Seip www.astromeeing.de

2009 • July

Log on to a HealthierYou and take the Health Assessment:
www.nasahealthieryou.com

Read more and complete the calendar evaluation:
www.ohp.nasa.gov/healthcalendar



| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
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| JUNE S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 | AUGUST S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 | | 1 | 2 | 3 Independence Day Observed (federal holiday) | 4 Independence Day |
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| 19 | 20 | 21 | 22 ● | 23 | 24 | 25 |
| 26 | 27 | 28 ● | 29 | 30 | 31 |  |

What's Your Favorite Sound?

Some of our most unforgettable experiences are categorized in our memory as sounds. Can you imagine not being able to hear your favorite sounds?

- Hearing loss is equivalent to macular degeneration of the eye. In both instances, the nerve cells are irreversibly damaged and therapeutic measures are unable to restore full functionality.
- "The Favorite Sound Project" is a practical tool to motivate individuals to utilize hearing protection and to change their hazardous noise listening habits.

SPACE: Hearing loss, both temporary and permanent, are thought to be a risk of both short and long duration spaceflight.

Factors that may lead to issues with astronaut hearing include launch noise and noise aboard spacecraft. The ISS crews have installed vibration isolators and mufflers on fans and acoustic padding to wall panels in order to lower ambient noise levels on the ISS.

www.hearingconservation.org

Fact or Fiction

Exposure to continuous noise for long periods of time can damage hearing.

NASA in Your Life

The Low Vision Enhancement System (LVES)

Down-to-Earth

Biodiesel

HealthierYou by Choice

In 1957, the U.S. Chamber of Commerce designated July as the National Hot Dog Month. Are you ready for a new twist to this old favorite?

Read more and complete the calendar evaluation: www.ohp.nasa.gov/healthcalendar

Susan Ross — www.dewingedangel.4t.com

The 2008 Messier Marathon of Iran captured atop Bahram Palace.
Amir H. Abolfath amir_ho_a@yahoo.com



2009 • August

Log on to a HealthierYou and take the Health Assessment:
www.nasahealthieryou.com

Read more and complete the calendar evaluation:
www.ohp.nasa.gov/healthcalendar



| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
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| JULY S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 | SEPTEMBER S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 | | | | | 1 |
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| 23 | 24 | 25 | 26 | 27 ● | 28 | 29 |
| 30 | 31 | | | | | |

Nanotechnology in Healthcare

“The art and science of building stuff that does stuff at the nanometer scale”. - Richard Smalley.

- Three distinct attributes of nanomaterials are smallness, strangeness, and sophistication.
- At nanoscale, one-billionth of a meter, properties of materials differ in fundamental and valuable ways. Materials begin to behave in unconventional ways.
- Nanotechnology has great potential to benefit society because it can make new and better products including renewable energy, clean water, lighter and stronger materials, and more effective medical treatments.

- The success of nanotechnology and the challenge of developing its sustainable promises involve further scientific research and public discussion to understand its full potential.

Excerpts from a lecture by Andrew Maynard PhD, Woodrow Wilson Institute, www.ohp.nasa.gov

SPACE: Nanotechnology, in the form of carbon nanotubes, is being considered as a way to reduce the weight and size of spacecraft materials but maintain or even increase the material's strength. Nanotechnology may also lead to more compact and sensitive devices to conduct scientific experiments in space.

www.nano.gov

Fact or Fiction

Nanoparticles occur naturally but they can also be engineered.

NASA in Your Life

Prosthesis Material

Down-to-Earth

Reduce, Reuse, Recycle...Rethink!

HealthierYou by Choice

August is National Catfish Month! Ninety-four percent of all U.S. Farm-Raised Catfish are raised in Alabama, Arkansas, Louisiana, and Mississippi.

Read more and complete the calendar evaluation: www.ohp.nasa.gov/healthcalendar

Night sky above and through a natural arch in the Alabama Hills, Sierra Nevada, California.
Wally Pacholka www.astropics.com



2009 • September

Log on to a HealthierYou and take the Health Assessment:
www.nasahealthieryou.com

Read more and complete the calendar evaluation:
www.ohp.nasa.gov/healthcalendar



| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 13 | 14 | 15 | 16 | 17 | 18 | 19 Rosh Hashanah | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 27 | 28 Yom Kippur | 29 | 30 | | AUGUST <table> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>1</td></tr> <tr><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr> <tr><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td></tr> <tr><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td></tr> <tr><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td></tr> <tr><td>30</td><td>31</td><td></td><td></td><td></td><td></td><td></td></tr> </table> | S | M | T | W | T | F | S | | | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | | | | | | OCTOBER <table> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>1 2 3</td></tr> <tr><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td></tr> <tr><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td></tr> <tr><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td></tr> </table> | S | M | T | W | T | F | S | | | | | | | 1 2 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
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Fruits & Veggies-More Matters™

The CDC has updated its 5 A Day Program with their new public and private health initiative called the Fruits & Veggies-More Matters™ Campaign.

- Age, gender, and activity level determine the amount of daily intake.
- Use the interactive calculator to learn what amount is right for you and your family members by visiting www.fruitsandveggiesmatter.gov.
- Take a family-health minute!

SPACE: Astronauts adhere to a strict diet in order to maintain proper body function in space and prevent spaceflight-induced body breakdown.

www.health.gov
www.nhlbi.nih.gov
www.MyPyramid.gov

Fact or Fiction

Being healthy and safe is very time consuming and it takes commitment.

NASA in Your Life

Lifesaving Light

Down-to-Earth

The Ecosystem

HealthierYou by Choice

The Romans and Egyptians introduced apples to Britain and finally to America. Today, Americans eat about 120 apples a piece each year.

Read more and complete the calendar evaluation: www.ohp.nasa.gov/healthcalendar



The Light Station at Pigeon Point near San Francisco, California.
Tyler Westcott www.flickr.com/people/mumbleyjoe/

2009 • October

Log on to a HealthierYou and take the Health Assessment:
www.nasahealthieryou.com

Read more and complete the calendar evaluation:
www.ohp.nasa.gov/healthcalendar



| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|--|---------|-----------|----------|-------------------------|-----------------|
| SEPTEMBER S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 | NOVEMBER S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 | | | 1 | 2 | 3 |
| 4 ○ | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 ● | 12 Columbus Day (federal holiday) | 13 | 14 | 15 | 16 National Boss Day | 17 |
| 18 ● | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 ● | 27 | 28 | 29 | 30 | 31 Halloween |

Assessing Osteoporosis and Clinical Risk Factors

- T-score is a measure of an individual's Bone Mineral Density (BMD) compared to what is found in a young, normal adult of the same sex.
 - ❖ Normal: +1 to -1
 - ❖ Osteopenia: -1 to -2.5
 - ❖ Osteoporosis: -2.5 or lower
 - ❖ Your T-score _____
- FRAX® is an assessment tool to predict the probability of fracture in men and women and to initiate a timely and cost-effective treatment plan.

- FRAX® accounts for the BMD at the hip plus nine other clinical risk factors including, but not limited to, prior history of fracture, a parental history of hip fracture, rheumatoid arthritis and other secondary causes of osteoporosis, and current smoking.

SPACE: Spaceflight may lead to the loss of bone mass similar to that seen when earthbound humans develop osteoporosis. To prevent bone breakdown during spaceflight, astronauts engage in various exercises and their meals are packaged with enough calcium and vitamin D.

www.usbjd.org
www.nof.org

Fact or Fiction

Osteoporosis can be prevented in some people.

NASA in Your Life

Infrared Thermometer

Down-to-Earth

Organize a Stop-the-Leak Day at home!

HealthierYou by Choice

October 26th is Pumpkin Day!

Read more and complete the calendar evaluation: www.ohp.nasa.gov/healthcalendar



The rising full moon behind the Parthenon, Greece.
Anthony Ayiomamitis www.perseus.gr

2009 • November

Log on to a HealthierYou and take the Health Assessment:
www.nasahealthieryou.com

Read more and complete the calendar evaluation:
www.ohp.nasa.gov/healthcalendar



| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 Daylight Savings Time Ends | 2 ○ | 3 Election Day | 4 | 5 | 6 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 9 ◐ | 10 | 11 Veterans Day (federal holiday) | 12 | 13 | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 16 ● | 17 | 18 | 19 | 20 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | 23 | 24 ◐ | 25 | 26 Thanksgiving Day (federal holiday) | 27 | 28 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | 30 | | | | OCTOBER <table> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td></tr> <tr><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td></tr> <tr><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td></tr> </table> | S | M | T | W | T | F | S | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | DECEMBER <table> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td></tr> <tr><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td></tr> <tr><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td></tr> <tr><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td></td></tr> </table> | S | M | T | W | T | F | S | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | |
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| 12 | 13 | 14 | 15 | 16 | 17 | 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | 27 | 28 | 29 | 30 | 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Diabetes Prevention

Losing weight helps with diabetes prevention. What is a good target for weight loss?

- The amount of weight loss necessary to improve health is stated in two ways:
 - ❖ Lose 5% or more of your initial body weight.
 - ❖ Reduce BMI by one or more points.
- Reasonable timeline to reach this target is approximately 6 months or 1-2 lbs per week.
- Learn about pre-diabetes and its associated risks by obtaining your Diabetes PHD at www.diabetes.org/diabetesphd/default.jsp.

SPACE: Astronauts are currently screened for various chronic diseases, including diabetes, in order to reduce the risk of an adverse health event occurring during a space mission.

www.nhlbi.nih.gov
www.diabetes.org

Fact or Fiction

Just 30 minutes a day of moderate physical activity, coupled with a 5-10% reduction in body weight, can produce a 58% reduction in diabetes.

NASA in Your Life

Diagnostic Instruments

Down-to-Earth

Read all labels, not just the food labels.

HealthierYou by Choice

Celebrate yourself, your spirit, your endurance, and your resilience on November 12th, The Chicken Soup for the Soul Day!

Read more and complete the calendar evaluation: www.ohp.nasa.gov/healthcalendar

Deneb in Cygnus, a star of the Summer Triangle, Grand Canyon, Arizona.
Babak Tafreshi www.dreamview.net








2009 • December

Log on to a HealthierYou and take the Health Assessment:
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| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--|--|---------|--|--|--|----------------|
| NOVEMBER S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 | JANUARY 2010 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 | 1 | 2  | 3 | 4 | 5 |
| 6 | 7 | 8 | 9  | 10 | 11 | 12 Hanukkah |
| 13 | 14 | 15 | 16  | 17 | 18 | 19 |
| 20 | 21 Winter Begins | 22 | 23 | 24  | 25 Christmas Day (federal holiday) | 26 Kwanzaa |
| 27 | 28 | 29 | 30 | 31  | | |

Coping with Holiday Stress and Depression

“The last of the human freedoms is to choose one’s attitudes.”
— Victor Frankl

- Minimize holiday related stress and depression by understanding the three holiday trigger points:
 - ❖ Relationships
 - ❖ Finances
 - ❖ Physical demands
- Visit www.ohp.nasa.gov/healthcalendar for tips to prevent stress and depression during the holiday season.

SPACE: Spaceflight isolates astronauts from their loved ones. They have an incredible workload during missions and must live and work together in a confined spacecraft 24 hours a day. Astronauts are trained with good coping mechanisms for the everyday stresses of spaceflight.

www.mayoclinic.com



Susan Ross—www.dewingedangel.4t.com

Fact or Fiction

Stress is caused by events that happen to us.

NASA in Your Life

The Personal Cabin Pressure Altitude Monitor and Warning System

Down-to-Earth

The Greenhouse Effect

HealthierYou by Choice

Why is it important to keep a food and activity diary?

Read more and complete the calendar evaluation: www.ohp.nasa.gov/healthcalendar

Feature Article: Setting Personal Boundaries

Two vital elements to a healthy relationship are establishing personal boundaries and effectively communicating them in your relationship. We are responsible for how we allow others to treat us.

Think of personal boundaries as bridges, not barriers, to healthy interactions. Setting personal boundaries means learning to accept yourself, to respect yourself, and to define yourself in a wholesome way. Some of us grow up thinking and believing that we have power over other peoples' feelings and they have power over ours. In reality, we are only in control of our own emotions. Most importantly, we always have choices.

Learning to set boundaries is critical to our personal and professional productivity, essential in achieving spiritual and physical health, and crucial in regaining control of our life and time. Some people confuse setting boundaries with manipulative behaviors; however, there is a major difference between the two. Unlike manipulative behaviors, when setting healthy personal boundaries we are letting go of the outcome!

Communicating our expectations of equality and respect in a relationship is at times a difficult task because we are afraid of upsetting or offending the other person. Therefore, it is best to use "I" statements to show ownership of the feeling. For example, "I feel sad when you behave in this manner." Instead of "You make me sad when you behave in this manner." Remember, communication is a learned skill which comes with studying proper techniques and practice.

When establishing healthy boundaries, identify those areas you feel have been ignored or are being violated. Then, recognize the unhealthy thinking that has allowed the transgression. Next, establish a new way of thinking which will encourage a behavioral change towards a healthier self.

In summary, when setting boundaries you are:

- Communicating your expectations, not making a threat or creating a barrier.
- Defining yourself and what is acceptable to you, not attempting to control or manipulate the other person.
- Expressing your right by saying "No" to those things that aren't right for you.
- Becoming a mature adult by taking responsibility for your actions while expecting equality and respect in a relationship.

www.selahcounseling.blogspot.com

www.revolutionhealth.com

www.workrelationships.com

Image gallery

We extend our appreciation to all the photographers who graciously gave permission for the use of their photographs. All images are appropriately credited. Images are also indexed on The World At Night (TWAN) www.twanight.org and the Astronomy Picture of the Day (APOD) apod.nasa.gov/apod/archivepix.html.

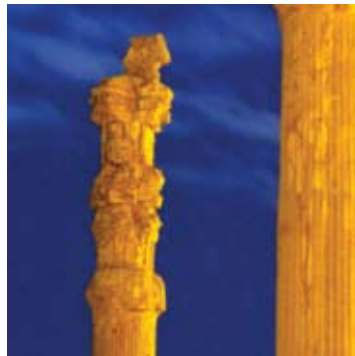
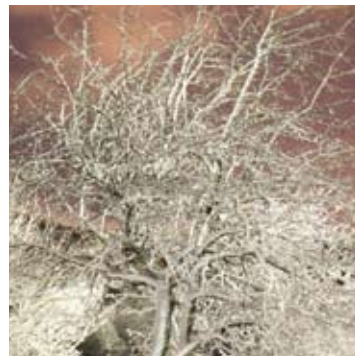
TWAN is a Special Project of International Year of Astronomy 2009 (an initiative by IAU and UNESCO) developed by the non-profit organization Astronomers Without Borders www.astrowb.org. The project seeks to cultivate a universal worldview by assembling a collection of stunning photographs and time-lapsed videos of the world's most beautiful and historic sites set against a nighttime backdrop of stars, planets, and celestial events.



The following is a brief description of each of the images. For detailed information please refer to the appropriate website.

- Star trail and the lights of aurora above a frozen lake, Canada. Yuichi Takasaka www.blue-moon.ca
- A snowstorm in the Bolu Mountains of Turkey. Tunc Tezel canopia@yahoo.com
- Colorful dance of northern lights over a Nisga'a Nation monumental sculpture, Canada. Yuichi Takasaka www.blue-moon.ca
- Full moon rising over the Taj Mahal, a World Heritage Site located in Agra, India. Babak Tafreshi www.dreamview.net
- Persepolis at night with full moon, a 2500-year old World Heritage Site of ancient Persian palaces and temples. Oshin Zakarian www.dreamview.net
- Hamra nature reserve in Tännälen, Sweden. P-M Heden www.clearskies.se
- Crescent Moon over Ramesses in the ancient city of Thebes, a World Heritage Site at Luxor, Egypt. Dennis Mammana www.dennismammana.com
- Scenic moonrise in southern Arizona in the Saguaro National Park, USA. Stefan Seip www.astromeeing.de
- The 2008 Messier Marathon atop Bahram Palace, a historic Persian caravansary located in the middle of the desert. Amir H. Abolfath amir_ho_a@yahoo.com
- Night sky above and through a natural arch in the Alabama Hills, Sierra Nevada, USA. Wally Pacholka www.astropics.com
- The Light Station at Pigeon Point near San Francisco, California, USA. Tyler Westcott www.flickr.com/people/mumbleyjoel
- The rising full moon behind the Parthenon (447-438 BC) in central Athens, Greece. Anthony Ayiomamitis www.perseus.gr
- Deneb Cygnus, a star of the Summer Triangle, Grand Canyon, a World Heritage Site, Arizona, USA. Babak Tafreshi www.dreamview.net
- Four nature images, Susan Ross www.dewingedangel.4t.com

Office of the Chief Health and Medical Officer



www.ohp.nasa.gov

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